



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,521	01/14/2002	Bogdan Szafraniec	10010748	3471

7590

05/15/2003

Paul D. Greeley, Esq.  
Ohlandt, Greeley, Ruggiero & Perle, L.L.P.  
One Landmark Square, 10th Floor  
Stamford, CT 06901-2682

EXAMINER

LYONS, MICHAEL A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/046,521	Applicant(s) SZAFRANIEC ET AL.	
	Examiner Michael A. Lyons	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-6, 11, and 12-14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

As for claims 1, 4, 5, 6, and 11, the claims each disclose the splitting of the second initial light beam into "a fifth light beam and a sixth light beam". It is unclear as to what these fifth and sixth light beams are, as the claim only makes mention of a first and second light beams beyond the first initial and second initial light beams. No third and fourth beams are disclosed by the claim.

As for claim 6, the claim discloses a first, second, third, fourth and fifth beam splitters. It is unclear as to where the fourth and fifth beam splitters are in the invention, as the diagram and the specification only disclose three couplers (beam splitters), elements 8, 20, and 22 in Figure 1. From reading the specification, it appears that the first coupler splits light, while the second and third couplers both split and recombine light. There is no mention of a fourth and fifth coupler in the disclosure.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2877

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Layton (5,218,418).**

Regarding claim 6, Layton (Fig. 1) discloses a first coupler (beam splitter) 10 in the path of the incoming light beam, a second coupler 12 in the path of a first beam split from the first coupler, a third coupler 14 in the path of a second beam split from the first coupler, and optical detectors 6 and 7. Figure 2 also discloses a system with additional couplers 34 and 36, bringing the total number of couplers to 5 as currently claimed. With regards to the whereby clause, it has been held that the functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Layton (5,218,418) in view of Sorin et al (5,202,745).**

As for claim 14, Layton's device fails to disclose an optical device under test being tested by the system. Sorin (Fig. 1), however, discloses a system that uses a Michelson interferometer similar to that disclosed in Layton to test the properties of the device under test 12. While this device under test is not a heterodyne optical network analyzer, the use of such an analyzer as the device under test is well known, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the system of Layton to study a device under test as per Sorin.

**Claims 1, 5, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Layton (5,218,418) in view of Sorin et al (5,202,745).**

Regarding claims 1, 5, and 11, while Layton discloses the elements of the claimed invention, and therefore the method of using the invention, Layton's device fails to disclose an optical device under test being tested by the system.

Sorin (Fig. 1) discloses a system that uses a Michelson interferometer similar to that disclosed in Layton to test the properties of the device under test 12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the system of Layton to study a device under test as per Sorin. Claim 5 is merely a computer software program for performing the above method and is accordingly disclosed by the combination of Layton and Sorin.

As for claim 13, the storage of a software program on a data carrier is well known.

**Claims 2-4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Layton (5,218,418) in view of Sorin et al (5,202,745) and in further view of Heffner (5,227,623).**

As for claims 2-4 and 12, neither Layton nor Sorin discloses testing of the device under test for chromatic or polarization dispersion. Heffner (abstract, Col. 12 line 53-col 17, line 54) discloses the use of Jones matrices and similar mathematical computations for chromatic and polarization dispersion tests of a device under test. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the techniques of Heffner with the combined device of Layton and Sorin to determine chromatic and polarization dispersions of the device under test.

***Allowable Subject Matter***

**Claims 7-10 are allowed in view of the prior art.**

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 7, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method of determination of an optical property of an optical device under test where the time dependency of the optical frequency of an optical beam is synchronized with a time dependence, with this synchronized time dependency being used to derive the frequency dependency of the optical property of the device under test, in combination with the rest of the limitations of the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933.

The examiner can normally be reached on Monday thru Thursday.

Application/Control Number: 10/046,521  
Art Unit: 2877

Page 6

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL  
May 12, 2003

A handwritten signature in black ink, appearing to read 'Samuel A. Turner', is written above the printed name and title.

**Samuel A. Turner**  
**Primary Examiner**